Abstract of the Disclosure

A mechanical seal having a single rotatable seal ring having a pair of concentric seal faces to form a radially inner seal face and a radially outer seal face. The mechanical seal also includes first and second stationary seal rings, each having a seal face, where the seal face of the first stationary seal ring contacts the radially outer seal face of the rotatable seal ring and the seal face of the second stationary seal ring contacts the radially inner seal face of the rotatable seal ring. The seal also includes a sleeve adapted to be mounted about the rotating shaft and rotatably coupled thereto and to the rotatable seal ring, said sleeve having a flange portion that is configured for housing at least a portion of the rotatable seal ring, and a gland for housing at least partially the single rotary seal ring and the first and second stationary seal rings. Under positive and negative pressure conditions, the combined area of the seal piston areas are substantially identical to provide a balanced seal arrangement without requiring the use of axially movable components.